

U.S. Patent Application No. 09/672,328

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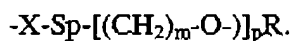
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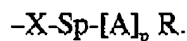
AMENDMENTS TO THE CLAIMS

1-7. (cancelled)

8. (previously presented) The pigment product of claim 32, wherein said steric group has the formula:



9. (previously presented) The pigment product of claim 32, wherein said steric group has the formula:



10. (previously presented) The pigment product of claim 9, wherein X is an aromatic group.

11. (cancelled)

12. (previously presented) The pigment product of claim 9, wherein X is substituted with a carboxylic group or a sulfonate group.

13. (previously presented) The pigment product of claim 9, wherein p is from 1 to 25.

14. (previously presented) The pigment product of claim 9, wherein p is from 26 to 50.

15. (previously presented) The pigment product of claim 9, wherein R is an aromatic group.

16. (previously presented) The pigment product of claim 9, wherein m is 2, p is 44-45, R is a methyl group, and X is a benzoyl group.

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17. (previously presented) The pigment product of claim 9, wherein m is 2, p is 22, R is a methyl group, and X is a benzoyl group.

18. (previously presented) The pigment product of claim 9, wherein m is 2, p is 44-45, R is hydrogen, and X is a benzoyl group.

19. (previously presented) The pigment product of claim 9, wherein m is 2, p is 7, R is a methyl group, and X is a benzoyl group.

20. (cancelled)

21. (previously presented) An ink composition comprising a) at least one liquid vehicle; b) at least one pigment product of claim 32.

22. (original) The ink composition of claim 21, wherein said liquid vehicle is aqueous.

23. (original) The ink composition of claim 21, wherein said liquid vehicle is non-aqueous.

24. (original) The ink composition of claim 21, wherein said ink composition is an inkjet ink composition.

25. (original) The ink composition of claim 21, further comprising at least one humectant, at least one binder, at least one dye, at least one biocide, at least one penetrant, at least one surfactant, or combinations thereof.

26-28. (cancelled)

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29. (previously presented) A printing plate comprising: a substrate, a protective layer located onto said substrate, and an infrared or near-infrared radiation-absorptive layer located on said protective layer, wherein said radiation-absorptive layer comprises at least one pigment of claim 32.

30-31. (cancelled)

32. (currently amended) A carbon black product having attached

a) at least one steric group having the formula $-X-Sp-[(CH_2)_m-O-]_pR$ or $-X-Sp-[A]_pR$, wherein

X is attached to the pigment and is an arylene group or alkylene group;

Sp represents a spacer group and is a bond or a chemical group selected from the group consisting of: CO_2 , O_2C , SO_2 , CO , $NHCO$, $CONR''$, $NR''CO_2$, $OCNR''$, $NR''CONR''$, O , S , NR'' , $SO_2C_2H_4$, arylene, alkylene, $NR''CO$, $NHCO_2$, O_2CNH , and $NCHONH$, wherein R'' , which can be the same or different, represents an aryl or alkyl group;

m is an integer of from 1 to 12;

p is an integer from 1 to 500;

A represents an alkylene oxide group of from about 1 to about 12 carbons, wherein A can be the same or different when p is greater than 1; and

R is hydrogen, a branched or unbranched C1-C12 alkyl group, or an aromatic group; and

b) at least one organic ionic group comprising at least one $-COO^-$, $-SO_3^-$, $-HPO_3^-$, or $-PO_3^{2-}$ group with at least one amphiphilic counterion, wherein said amphiphilic counterion has a charge opposite to that of said organic ionic group.

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33. (currently amended) A carbon black product having attached

a) at least one steric group having the formula $-X-Sp-[polymer]R$, wherein

X is attached to the pigment and is an arylene group or alkylene group;

Sp represents a spacer group and is a bond or a chemical group selected from the group consisting of: CO_2 , O_2C , SO_2 , CO , $NHCO$, $CONR^"$, $NR^"CO_2$, $OCNR^"$, $NR^"CONR^"$, O , S , $NR^"$, $SO_2C_2H_4$, arylene, alkylene, $NR^"CO$, $NHCO_2$, O_2CNH , and $NCHONH$, wherein $R^"$, which can be the same or different, represents an aryl or alkyl group

"polymer" represents a polyolefin group, a polyurethane group, a polystyrenic group, a polyacrylate group, a polyamide group, a polyester group, or mixtures thereof, polymeric group having repeating monomer groups, multiple monomer groups, or both, optionally having at least one $-X'$ group, wherein X' is an aromatic group, arylene group, alkyl group, or alkylene group, each X' and X can be the same or different; and the total amount of monomer groups of "polymer" is not greater than about 500 monomer repeating units;

R is hydrogen, a bond, a branched or unbranched C1-C12 alkyl group, or an aromatic group and when R represents a bond, R optionally bonds to said pigment; and

b) at least one organic ionic group comprising at least one $-COO^-$, $-SO_3^-$, $-HPO_3^-$, or $-PO_3^{2-}$ group with at least one amphiphilic counterion, wherein said amphiphilic counterion has a charge opposite to that of said organic ionic group.

34. (previously presented) An ink composition comprising a) at least one liquid vehicle; b) at least one pigment product of claim 33.

35. (previously presented) The ink composition of claim 34, wherein said liquid vehicle is aqueous.

36. (previously presented) The ink composition of claim 34, wherein said liquid vehicle is non-aqueous.

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37. (previously presented) The ink composition of claim 34, wherein said ink composition is an inkjet ink composition.

38. (previously presented) The ink composition of claim 34, further comprising at least one humectant, at least one binder, at least one dye, at least one biocide, at least one penetrant, at least one surfactant, or combinations thereof.

39. (previously presented) A printing plate comprising: a substrate, a protective layer located onto said substrate, and an infrared or near-infrared radiation-absorptive layer located on said protective layer, wherein said radiation-absorptive layer comprises at least one pigment of claim 33.

40. (new) A carbon black product having attached
a) at least one steric group having the formula $-X-Sp-[(CH_2)_m-O-]_pR$ or $-X-Sp-[A]_pR$,
wherein

X is attached to the pigment and is an arylene group or alkylene group;

Sp represents a spacer group and is a bond or a chemical group selected from the group consisting of: CO_2 , O_2C , SO_2 , CO , $NHCO$, $CONR''$, $NR''CO_2$, $OCNR''$, $NR''CONR''$, O , S , NR'' , $SO_2C_2H_4$, arylene, alkylene, $NR''CO$, $NHCO_2$, O_2CNH , and $NCHONH$, wherein R'' , which can be the same or different, represents an aryl or alkyl group;

m is an integer of from 1 to 12;

p is an integer from 1 to 500;

A represents an alkylene oxide group of from about 1 to about 12 carbons, wherein A can be the same or different when p is greater than 1; and

R is hydrogen, a branched or unbranched C1-C12 alkyl group, or an aromatic group; and

b) at least one aromatic or C1-C12 alkyl group further substituted with at least one $-COO^-$, $-SO_3^-$, $-HPO_3^-$, or $-PO_3^{2-}$ group with at least one amphiphilic counterion.

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41. (new) A carbon black product having attached
- a) at least one steric group having the formula $-X-Sp-[polymer]R$, wherein X is attached to the pigment and is an arylene group or alkylene group;

Sp represents a spacer group and is a bond or a chemical group selected from the group consisting of: CO_2 , O_2C , SO_2 , CO , $NHCO$, $CONR$, $NR"CO_2$, $OCNR$, $NR"CONR$, O , S , NR , $SO_2C_2H_4$, arylene, alkylene, $NR"CO$, $NHCO_2$, O_2CNH , and $NCHONH$, wherein R , which can be the same or different, represents an aryl or alkyl group

"polymer" represents a polyolefin group, a polyurethane group, a polystyrenic group, a polyacrylate group, a polyamide group, a polyester group, or mixtures thereof, optionally having at least one $-X'$ group, wherein X' is an aromatic group, arylene group, alkyl group, or alkylene group, each X' and X can be the same or different; and the total amount of monomer groups of "polymer" is not greater than about 500 monomer repeating units;

R is hydrogen, a bond, a branched or unbranched C1-C12 alkyl group, or an aromatic group and when R represents a bond, R optionally bonds to said pigment; and

- b) at least one aromatic or C1-C12 alkyl group further substituted with at least one $-COO^-$, $-SO_3^-$, $-HPO_3^-$, or $-PO_3^{2-}$ group with at least one amphiphilic counterion.